

## **REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed March 22, 2005. Upon entry of the amendments in this response, claims 1 - 23 remain pending. In particular, Applicants have amended claim 11 to correct typographic and grammatical errors. Applicants respectfully submit that no new matter has been added.

Reconsideration and allowance of the application and presently pending claims are respectfully requested.

### **Indication of Allowable Subject Matter**

The Office Action indicates that claims 11-23 are allowed. Additionally, the Office Action indicates that claims 7 and 10 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In view of the foregoing amendments, Applicants respectfully submit that all pending claims are in condition for allowance.

### **Rejections under 35 U.S.C. 102**

The Office Action indicates that claims 1-2, 4-5 and 8 are rejected under 35 U.S.C 102(e) as being anticipated by *Qian* (U.S. Patent No. 6,699,399). Applicants respectfully traverse the rejection.

With respect to *Qian*, *Qian* discloses a process for etching a substrate 25 in an etching chamber 30, and simultaneously cleaning a thin, non-homogeneous etch residue deposited on the surfaces of the walls 25 and components of the etching chamber 30. The cleaning gas is introduced in at least one of the stages to remove the etch residue deposited on the chamber

surfaces in one or more of the multiple etching steps. (See abstract, col. 12, lines 15-19 and FIGs.1a-3). Specifically, the chamber surfaces are cleaned and conditioned by the etchant and cleaning gas combination. The activated cleaning gas can be used to efficiently clean chamber 30 in-situ during etching of the substrate 25. (See col. 13, lines 24-27 and lines 50-52).

Accordingly, the cleaning and the etching are simultaneously performed. That is, the cleaning is performed during etching of a single substrate. Moreover, Qian does not disclose when or in what situation the cleaning is to be performed on the chamber surfaces. This is in direct contrast to the limitations recited in Applicants' claims.

In this regard, claim 1 recites:

1. A semiconductor process for controlling etching profile, comprising the steps of:

providing a plurality of substrates, in which a film to be etched and an overlying masking pattern layer are provided overlying each substrate; and  
etching each of the films in sequence in a plasma chamber using the masking pattern layer as an etch mask, a polymer layer being deposited over the inner wall of the plasma chamber during the etching;

*wherein an intermediary cleaning process is performed in the plasma chamber between the etchings before the deposited polymer layer reaches such a degree as to induce lateral etching on the next film to be etched.*

(Emphasis Added).

Applicants respectfully assert that *Qian* does not teach or otherwise disclose at least the features/limitations emphasized above in claim 1. Therefore, Applicants respectfully request that the rejection of claim 1 be removed and that claim 1 be placed in condition for allowance. Since claims 2, 4-5 and 8 are dependent claims that incorporate the limitations of claim 1, and are not otherwise rejected in the Office Action, Applicants respectfully request that these claims also be

placed in condition for allowance. Additionally, these claims recite other features and combinations thereof that can serve as an independent basis for patentability.

### **Rejections under 35 U.S.C. 103**

The Office Action indicates that claims 3, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Qian* in view of *Zhong* (U.S. 6,127,927). Applicants respectfully traverse the rejection.

In particular, Applicants respectfully assert that the combination of *Qian* and *Zhong* is legally deficient for the purpose of rendering claims 3, 6 and 9 unpatentable, because the combination does not teach or reasonably suggest at least the features/limitations emphasized above in claim 1 as lacking in *Qian*. That is, *Zhong* does not teach or reasonably suggest these features/limitations either. Since claims 3, 6 and 9 are dependent claims that incorporate the features of claim 1, Applicants respectfully assert that these claims are in condition for allowance. Additionally, these claims recite other features that can serve as an independent basis for patentability.

### **Cited Art of Record**

The cited art of record has been considered, but is not believed to affect the patentability of the presently pending claims.

## CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this Amendment and Response. If, however, any fee is due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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